

# PATENT ABSTRACTS OF JAPAN

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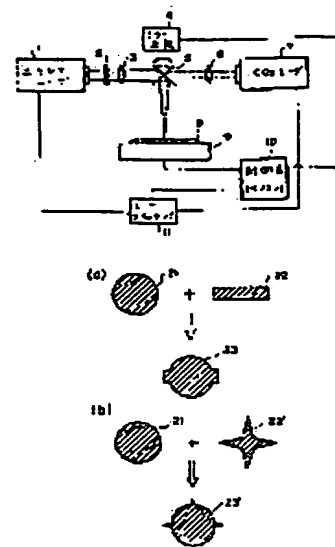
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## 4) THROUGH-HOLE PRINTED WIRING BOARD AND FORMATION OF THROUGH-HOLE

### 7)Abstract:

URPOSE: To highly reliably form a through-hole by forming a uniform metal film and circulating a plating solution in penetration hole for the through-hole satisfactorily by providing a different shape part as the penetration hole.

ONSTITUTION: A workpiece 8 on an X-Y stage 9 is irradiated with a circular beam spot 21 from a CO2 laser oscillator 7 via a focusing lens 6 and a rotating mirror 5 is rotated by 90°, the workpiece 8 as an object shape 22 is irradiated at the same position with a pulsed oscillation beam from an excimer laser oscillator 1. Control means 10 performs movement of the workpiece, inversion of the mirror, and switching of plating completion, whereby a penetration hole 23 for the through-hole including the different shape provided thereon can be formed. Thus, a plating solution can be facilitated to be incorporated into the penetration hole, and air bubbles can be freed to the outside of the penetration hole to ease the formation of the metal film.



### LEGAL STATUS

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